

### **AMENDMENTS TO THE CLAIMS**

Please amend the claims as indicated below. The language being added is underlined ("\_\_\_") and the language being deleted contains a strikethrough ("—").

#### **LISTING OF CLAIMS**

1. (Currently Amended) A method for multiple inputs, multiple outputs (MIMO) power spectral density (PSD) allocation in a digital subscriber line (DSL) system, the method comprising:

monitoring system performance by performing a multi-ended line test (MELT);  
processing the MELT; and[[,]]

allocating PSD based on at least one of system coupling power and system traffic.

2. (Original) The method of claim 1 wherein performing a MELT further comprises: dynamically determining the near end cross talk (NEXT)/ECHO couplings at a customer premises (CP) location.

3. (Original) The method of claim 1 wherein performing a MELT further comprises: dynamically determining the near end cross talk (NEXT)/ECHO couplings at a central office (CO) location.

4. (Original) The method of claim 1 wherein performing a MELT further comprises: dynamically determining the far end cross talk (FEXT) couplings at a

customer premises (CP) location.

5. (Original) The method of claim 1 wherein performing a MELT further comprises: dynamically determining the far end cross talk (FEXT) couplings at a central office (CO) location.

6. (Original) The method of claim 1 wherein processing the MELT further comprises processing the MELT by a disruptive method.

7. (Original) The method of claim 1 wherein processing the MELT further comprises processing the MELT by a non-disruptive method.

8. (Original) The method of claim 7 wherein the non-disruptive method further comprises an active method.

9. (Original) The method of claim 7 wherein the non-disruptive method further comprises a passive method.

10. (Original) The method of claim 1 wherein the allocation of PSD based upon system coupling power further comprises implementing a full mask control scheme.

11. (Original) The method of claim 1 wherein the allocation of PSD based upon system coupling power further comprises implementing a selective bit control scheme.

12. (Original) The method of claim 1 wherein the allocation of PSD based upon system coupling power further comprises implementing a power swap scheme.

13. (Currently Amended) A system for dynamically monitoring and allocating upstream and downstream power spectral density (PSD) of a transceiver set, the system comprising:

a monitor for performing multi-ended line tests (MELT);

a controller, responsive to the monitor, for ~~dynamically allocating upstream and downstream PSD~~ performing multiple inputs, multiple outputs (MIMO) dynamic PSD allocation of upstream and downstream PSD; and

a table of upstream PSD and downstream PSD for each time (t) and each line.

14. (Original) The system of claim 13, wherein the monitor is receptive to a priori information from other system levels.

15. (Original) The system of claim 13, wherein the controller is receptive to a priori information from other system levels.

16. (New) A system for multiple inputs, multiple outputs (MIMO) dynamic monitoring and allocation of upstream and downstream power spectral density (PSD) of a transceiver set, the system comprising:

a monitor for performing multi-ended line tests (MELT) on components within the DSL system;

a controller, for performing MIMO dynamic allocation of upstream and downstream PSD for the components within the DSL system, wherein the controller is responsive to at least one of the monitor and a priori knowledge received from components within the DSL system; and

a table of upstream PSD and downstream PSD for each time (t) and each line.

17. (New) The system of claim 16, wherein the monitor is receptive to a priori information from components within the DSL system.

18. (New) The system of claim 15, wherein the multi-ended line tests include at least one of the following:

dynamic determination of near end cross talk (NEXT)/ECHO couplings at a customer premises (CP) location;

dynamic determination of far end cross talk (FEXT) couplings at a central office (CO) location;

dynamic determination of far end cross talk (FEXT) couplings at the CP location;  
and

dynamic determination of far end cross talk (FEXT) couplings at the CO location.

19. (New) The system of claim 16 wherein the controller is further configured to perform MIMO dynamic allocation of upstream and downstream PSD by a disruptive method.

20. (New) The system of claim 16 wherein the controller is further configured to perform MIMO dynamic allocation of upstream and downstream PSD by a non-disruptive method comprised of an active method and a passive method.